

ALMONDS

MOOD & COGNITION

ALMONDS CONTAIN:

- ✓ Protein
- ✓ Vitamin E
- ✓ Healthy Fats

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The Brain Benefits of ALMONDS

A rapidly growing body of human research shows that nuts, including almonds, can have positive effects on the brain. This is highly relevant given Australia's growing mental health crisis and ageing population. Depression and anxiety are one of the largest contributors to the total burden of disease today, and dementia is the leading cause of disability among Australians over 65, and the leading cause of death in females ^(1,2). In recent years the growing field of Nutritional Psychiatry has emerged, with a growing understanding on the important relationship between food and its impact on mood and cognition.

Where do almonds fit in? What does the science say? And what evidence-based practical advice can we give to clients?

Cognitive Decline & Mental Illness – A SNAPSHOT

Cognitive ageing is defined as a spectrum, moving from healthy functioning to mild cognitive decline to dementia ⁽¹⁾. Over 400,000 Australians are currently living with dementia ⁽¹⁾, and cognitive disorders like dementia are predicted to double over the next 20 years ⁽²⁾.

One in 5 Australians are reported to suffer a mental health condition in any given year, with nearly 1 in 2 experiencing a mental illness at least once in their lifetime ⁽²⁾.

SUMMARY: What do clients need to know?

- Maintaining good nutrition is vital for brain health as we get older.
- Almonds contain a unique package of nutrients that can support healthy brain structure and function.
- Strong evidence that nuts are associated with a reduction in the cognitive decline associated with ageing.
- Emerging evidence that nuts and almonds may improve wellbeing, mood and memory.
- One serve of almonds (1 handful or 30g) daily may help to prevent cognitive decline, while up to two handfuls (60g) each day may improve shorter-term outcomes of mood and memory.

About the research

A literature review investigating the relationship between nuts, including almonds, and cognition and mood was conducted by Nutrition Research Australia (NRAUS). The review was undertaken via the PUBMED database. Study types were limited to randomised controlled trials (RCTs), cohort studies, and systematic literature reviews. Targeted searches were also conducted in Google Scholar using key terms.

Research findings in a snapshot: COGNITION

Over the last 10 years there were 15 human studies investigating nut intake on cognition. Strong and consistent evidence from cohort studies suggests that nut intake reduces the cognitive decline associated with ageing ⁽³⁻⁷⁾. In a Dutch study following over 2600 men and women over 5 years, an equivalent reduction in cognitive decline of 5-8 years was reported among individuals who consumed the highest nut intake, compared to those who consumed the lowest ⁽⁴⁾.

Recent evidence suggests that almonds may improve some aspects of memory. In a RCT of 86 American adults, approximately two handfuls of almonds (53g) as part of a high fat lunch reduced the dip in memory that occurs immediately after eating lunch ⁽⁸⁾. In a recent RCT, nearly three handfuls of almonds (85g/day) were found to improve multiple aspects of memory such as visuospatial working memory, visual memory and learning, and special planning and working memory, over 6 months ⁽⁹⁾.

Research findings in a snapshot: MOOD

Research on the role of nuts and mood is still in its infancy, with four RCTs and one cohort study found over the last six years. Evidence from RCTs has shown that eating walnuts improved mood in young men⁽¹⁰⁾, and that eating almonds as part of a low carbohydrate diet improved depression symptoms in type 2 diabetics⁽¹¹⁾. More research is needed to firmly establish the role of almonds specifically on mood disorders and mental health.

How might almonds be linked to BRAIN HEALTH?

Almonds may positively impact cognition by reducing inflammation and supporting endothelial function. Chronic inflammation has been linked to a loss of neuron function and brain regeneration⁽¹²⁾. The endothelium is important in regulating blood flow, and impaired blood flow is linked with cognitive decline⁽¹³⁾. Almonds contain a unique nutrient package (including arginine, vitamin E and polyphenols) that may improve endothelial function by increasing vasodilation⁽¹⁴⁾.

Almonds potential impact on mood is thought to be mediated through improved brain nutrient status, reduced inflammation, and improved gut microbiota composition⁽¹⁵⁻¹⁸⁾.



Amounts and frequency: What does the science say?

- At least 10g of nuts per day is associated with the reduction in age related cognitive decline⁽³⁻⁷⁾.
- Two to three handfuls of almonds (53-85g) each day over 6 months was shown to improve some aspects of memory^(8, 9).
- Two large handfuls of nuts (56-60g) each day over 8-12 weeks had positive effects on mood^(10, 11).

7 REASONS

Why Almonds are good for BRAIN HEALTH

- ✓ Source of protein and rich in the amino acid arginine, which helps keep blood vessels healthy⁽¹⁹⁾.
- ✓ Rich in vitamin E, which provides antioxidant and anti-inflammatory protection⁽¹⁷⁾. One serve (30g) of almonds provides over 90% of vitamin E requirements.
- ✓ Contains riboflavin and magnesium, brain specific nutrients that have been linked to mood and depression^(15,16).
- ✓ Rich in unsaturated fatty acids to support healthy gut flora and circulatory health^(12,20).
- ✓ Source of fibre (3g/serve), with almond skin containing approx. 50% of the fibre⁽²¹⁾. The fibre has a high insoluble to soluble fibre ratio (7:1) and contains prebiotic fructans to support gut health⁽¹⁸⁾.
- ✓ Contains polyphenols in the skin to support gut health and are anti-inflammatory⁽¹⁷⁾.
- ✓ Almonds contain higher levels of vitamin E, riboflavin, niacin and fibre, compared to other nuts⁽²²⁾.



Where to from here?

As the current evidence on cognitive decline is on total nut intake, future research is needed that examines the role of almonds on cognitive decline and dementia specifically. Further clinical trials are also needed to investigate the effect of almonds on mood, including the specific underlying mechanisms, such as almond-induced changes to the microbiota.

TAKE HOME MESSAGE

Almonds contain a unique package of nutrients that can support brain structure and function.

One daily serve (1 handful or 30g) may help to prevent cognitive decline, while up to two handfuls each day (60g) may positively impact shorter-term outcomes of mood and memory.

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